

What is claimed is:

1. A fire-rated recessed downlight, it comprising:

a mantle (21), a light fixture (111) which is fixed in the mantle (21);

wherein the said mantle (21) comprises at least one radiating hole (4) with a dilatable fireproof piece (5) fixed in said radiating hole (4); the radiating aperture (6) connects the radiating hole (4) with the outside of the mantle (21).
2. The fire-rated recessed downlight of claim 1, wherein the radiating aperture (6) is defined in the dilatable fireproof piece (5) corresponding to the radiating hole (4).
3. The fire-rated recessed downlight of claim 1, wherein at least one radiating aperture (6') is defined between the edges of said dilatable fireproof piece (5) and edges of said radiating hole (4).
4. The fire-rated recessed downlight of claim 1, wherein an adiabatic piece (13) is fixed on a bottom surface (12) of said mantle (21).
5. The fire-rated recessed downlight of claim 1, wherein said mantle (21) comprises a metallic layer (2) and a fireproof and/or adiabatic layer (3) inside and / or outside the metallic layer (2).
6. The fire-rated recessed downlight of claim 1, wherein said mantle (21) comprises two metallic layers (2) and one fireproof and/or adiabatic layer (3) which is between said two metallic layers (2).
7. The fire-rated recessed downlight of any one of claims 1-6, wherein said mantle (21) comprises a concave (7) and said radiating hole (4) is in a bottom of the concave (7), said dilatable fireproof piece (5) being fixed in said concave (7), and a cover (8) is fixed on said mantle (21) covering said dilatable fireproof piece (5), holes (81) corresponding to the radiating aperture (6) are defined in the cover (8).
8. The fire-rated recessed downlight of any one of claims 1 -6, wherein said radiating hole (4) is defined in the top of said mantle (21).
9. The fire-rated recessed downlight of any one of claims 1 -6, wherein said radiating hole (4) is defined in the sidewall of said mantle (21).